

Claims

What is claimed is:

1. A method for controlling active-to-standby transitions for mobile terminals in a wireless communication environment, the method comprising:
 - a) monitoring at least one Quality of Service (QoS) parameter bearing on QoS;
 - b) determining a first value for an active-to-standby transition timer for a first mobile terminal based on the at least one QoS parameter;
 - c) setting the active-to-standby transition timer for the first mobile terminal with the first value at the end of a data communication session with the first mobile terminal; and
 - d) instructing the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter.
2. The method of claim 1 wherein the first value decreases as the at least one QoS parameter changes in a manner adversely affecting QoS.
3. The method of claim 2 wherein the first value has an initial value and is decreased after the at least one QoS parameter passes a predefined threshold.
4. The method of claim 1 wherein the at least one QoS parameter consists of a number of active mobile terminals, an amount of communication traffic, system overload, time after system overload, and a combination thereof.
5. The method of claim 1 further comprising:



- a) determining a second value for an active-to-standby transition timer for a second mobile terminal based on the at least one Quality of Service (QoS) parameter;
- b) setting the active-to-standby transition timer for the second mobile terminal with the second value at the end of a data communication session with the second mobile terminal; and
- c) instructing the second mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the second mobile terminal, the second value for the active-to-standby transition timer for the second mobile terminal being variable based on the at least one QoS parameter.

6. The method of claim 5 wherein the first and second values decrease as the at least one QoS parameter changes in a manner adversely affecting QoS.

7. The method of claim 6 wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS.

8. The method of claim 7 wherein the first value has a higher initial value than the second value.

9. The method of claim 8 wherein the initial values for the first and second values decrease after the at least one QoS parameter passes the predefined threshold.

10. The method of claim 5 wherein the first mobile terminal is associated with a first QoS level and the second mobile terminal is associated with a second QoS level.

11. The method of claim 10 wherein the first value is applied to active-to-standby transition timers for a plurality of mobile terminals and the

second value is applied to active-to-standby transition timers for a plurality of mobile terminals.

12. The method of claim 5 further comprising blocking standby-to-active transitions for mobile terminals in the standby mode based on the at least one QoS parameter.
13. The method of claim 5 further comprising instructing active mobile terminals to transition to the standby mode based on the at least one QoS parameter when no data needs to be communicated in association with the active mobile terminals.
14. A method comprising:
 - a) monitoring at least one Quality of Service (QoS) parameter bearing on QoS;
 - b) determining a first value for active-to-standby transition timers for active mobile terminals associated with a first QoS level and a second value for active-to-standby transition timers for active mobile terminals associated with a second QoS level, the first and second values based on the at least one QoS parameter;
 - c) setting the active-to-standby transition timers for the mobile terminals with the corresponding first or second values at the end of a data communication sessions; and
 - d) instructing each mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the corresponding active-to-standby transition timer.
15. The method of claim 14 wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS.
16. The method of claim 15 wherein the first value has a higher initial value than the second value.

17. An access point comprising:

- a) a wireless communication interface adapted to facilitate wireless communications with mobile terminals; and
- b) a control system associated with the wireless communication interface and adapted to:
 - i) monitor at least one Quality of Service (QoS) parameter bearing on QoS;
 - ii) determine a first value for an active-to-standby transition timer for a first mobile terminal based on the at least one QoS parameter;
 - iii) set the active-to-standby transition timer for a first mobile terminal with the first value at the end of a data communication session with the first mobile terminal; and
 - iv) instruct the first mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the first mobile terminal, the first value for the active-to-standby transition timer for the first mobile terminal being variable based on the at least one QoS parameter.

18. The access point of claim 17 wherein the first value decreases as the at least one QoS parameter changes in a manner adversely affecting QoS.

19. The access point of claim 18 wherein the first value has an initial value and is decreased after the at least one QoS parameter passes a predefined threshold.

20. The access point of claim 17 wherein the at least one QoS parameter consists of a number of active mobile terminals, an amount of communication traffic, system overload, time after system overload, and a combination thereof.

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21. The access point of claim 17 wherein the control system is further adapted to:

- determine a second value for an active-to-standby transition timer for a second mobile terminal based on the at least one QoS parameter;
- set the active-to-standby transition timer for the second mobile terminal with the second value at the end of a data communication session with the second mobile terminal; and
- instruct the second mobile terminal to transition from an active mode to a standby mode if another communication session is not necessary prior to expiration of the active-to-standby transition timer for the second mobile terminal, the second value for the active-to-standby transition timer for the mobile terminal being variable based on the at least one QoS parameter.

22. The access point of claim 21 wherein the first and second values decrease as the at least one QoS parameter changes in a manner adversely affecting QoS.

23. The access point of claim 22 wherein the first value decreases at a lower rate than the second value as the at least one QoS parameter changes in a manner adversely affecting QoS.

24. The access point of claim 23 wherein the first value has a higher initial value than the second value.

25. The access point of claim 24 wherein the initial values for the first and second values decrease after the at least one QoS parameter passes a predefined threshold.

26. The access point of claim 21 wherein the first mobile terminal is associated with a first QoS level and the second mobile terminal is associated with a second QoS level.



27. The access point of claim 26 wherein the first value is applied to active-to-standby transition timers for a plurality of mobile terminals and the second value is applied to active-to-standby transition timers for a plurality of mobile terminals.
28. The access point of claim 21 wherein the control system is further adapted to block standby-to-active transitions for mobile terminals in the standby mode based on the at least one QoS parameter.
29. The access point of claim 21 wherein the control system is further adapted to instruct active mobile terminals to transition to the standby mode based on the at least one QoS parameter when no data needs to be communicated in association with the active mobile terminal.